

Commercial/Industrial Stormwater Inspection Basics:

*SMCWPPP Commercial/Industrial/Illicit
Discharge (CII Subcommittee) Inspector Training*

February 28, 2018

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Outline

- **Regulatory Background**
- **Planning for Inspections**
- **Conducting Inspection**
- **Pollutants of Concern**

Stormwater Regulations



U.S. EPA

Clean Water Act establishes
NPDES permit program



**State Water Resource
Control Board**

- NPDES permitting authority in CA
- Issues State Stormwater Industrial General Permit (IGP)



**Regional Water Quality
Control Board**

9 regions

- Issues Municipal Regional Permit (MRP)
- Inspects/Enforces State IGP

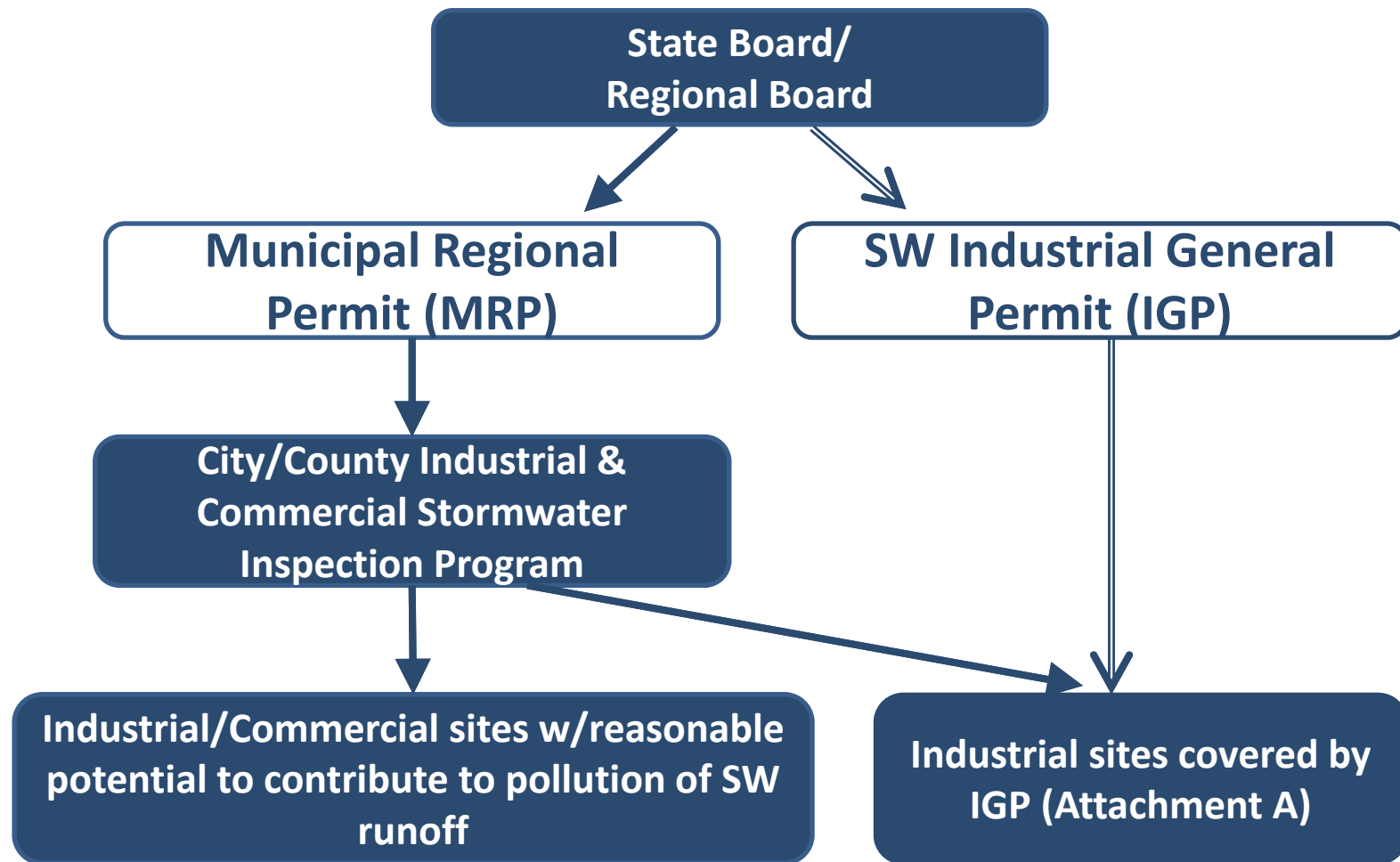


**Municipal Separate
Storm Sewer System
(MS4)**

Implement Local Stormwater
Program



Industrial Site Regulations



Industrial General Permit

- **Applies to specific types of industry (Attachment A)**
 - 40 CFR Subchapter N
 - Manufacturing Facilities
 - Oil & Gas/Mining Facilities
 - Hazardous Waste Treatment, Storage or Disposal Facilities
 - Landfills, Land Application Sites and Open Dumps
 - Recycling Facilities
 - Steam Electric Power Generating Facilities
 - Transportation Facilities
 - Sewage or Wastewater Treatment Works
- **RWB staff responsible for compliance inspections & enforcement**

NOI Filers in San Mateo County from SMARTS

City	Manufact- uring	Mining	Public Admin	Transportation, Communications, Electric, Gas & Sanitary Services	Wholesale Trade	No SIC Code	Total
Belmont	1						1
Brisbane	2	1		7			10
Burlingame	2			4			6
Colma	1			2			3
Daly City				1		1	2
East Palo Alto	1			1	1		3
Foster City			1				1
Half Moon Bay	3	1		2		1	7
Menlo Park	13		1	3			17
Pacifica					1		1
Portola Valley	1						1
Redwood City	18	2	1	2	1		24
San Bruno				1	1	2	4
San Carlos	13			5	1		19
San Mateo	1			4	3		8
South San Francisco	5	1		9	2	1	18
Woodside	2	1					3
(blank)						1	1
Total	69	6	3	43	10	10	141

Industrial General Permit

- **Contains requirements for**

- Stormwater Pollution Prevention Plan (SWPPP)
- minimum BMPs
- inspections
- sampling
- reporting (SMARTs)
- meeting Numeric Action Levels (NALs)
- QISP and Exceedance Response Actions reports for exceeding NALs



Industrial General Permit

■ Municipal Requirements

- Inspect IGP facilities
- Report facilities that may need coverage under the IGP that have not submitted a Notice of Intent (NOI)

■ Municipal Tips

- Reviewing SWPPP, inspection records, sampling results may help inform your MRP inspection
- Overall site compliance reflects on your inspection program

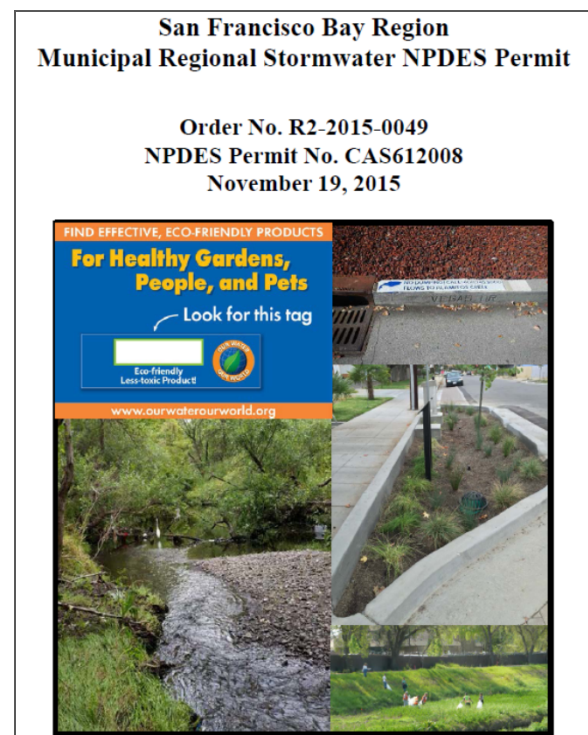
Municipal Regional Permit (MRP)

- Regional permit regulating municipal stormwater systems
- Applies to 76 cities, counties, and districts in:
 - Santa Clara, Alameda, Contra Costa, and San Mateo Counties
 - Fairfield and Suisun City (Solano County)
 - Vallejo (Solano County)



Municipal Regional Permit (MRP)

- First adopted by Regional Water Board: October 14, 2009
- Permit renewed every 5 years
- Reissued November 19, 2015
- Became effective January 1, 2016
- Provisions related to municipal activities/facilities and pollutants of concern (POC)



Municipal Regional Permit (MRP)

■ MRP Provisions

- C.4 Industrial and Commercial Site Controls
- C.11 Mercury Controls
- C.12 PCBs Controls
- C.13 Copper Controls

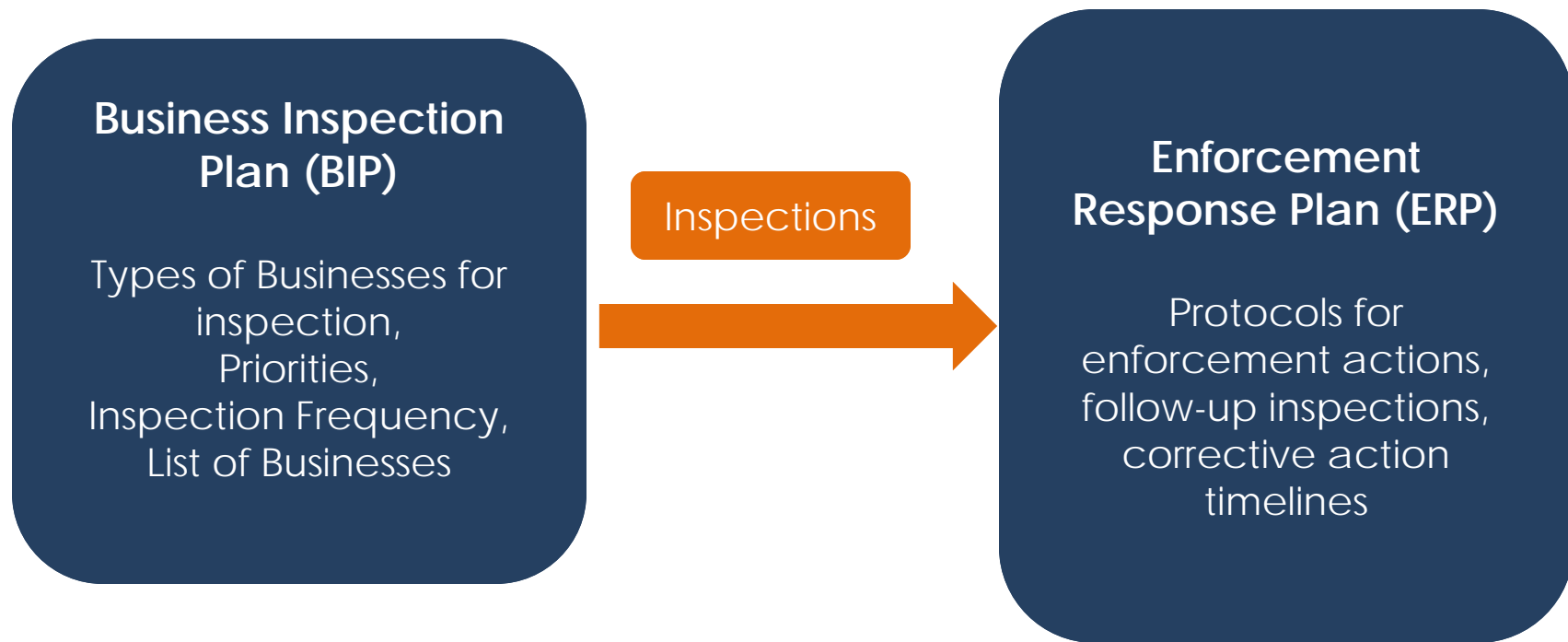
■ Prevent discharges of pollutants and impacts on receiving waters



Planning for Inspections

- **Legal authority = Municipal Code**
 - Inspect
 - Require BMPs
 - Issue enforcement actions
- **Regulate by Best Management Practices (BMPs)**
 - Habits
 - Indicative of what they do when you are not there

C.4 Business Inspection Program Guidance



MRP Facilities

Waste transfer facilities,
Metal/Recycled material collection,
Vehicle salvage yards



Vehicle repair, fueling or
cleaning facilities



Corp yards, building
trades central facilities



Nurseries,
greenhouses



Plastic
manufacturers



NOI Facilities



Food Service
(Added)



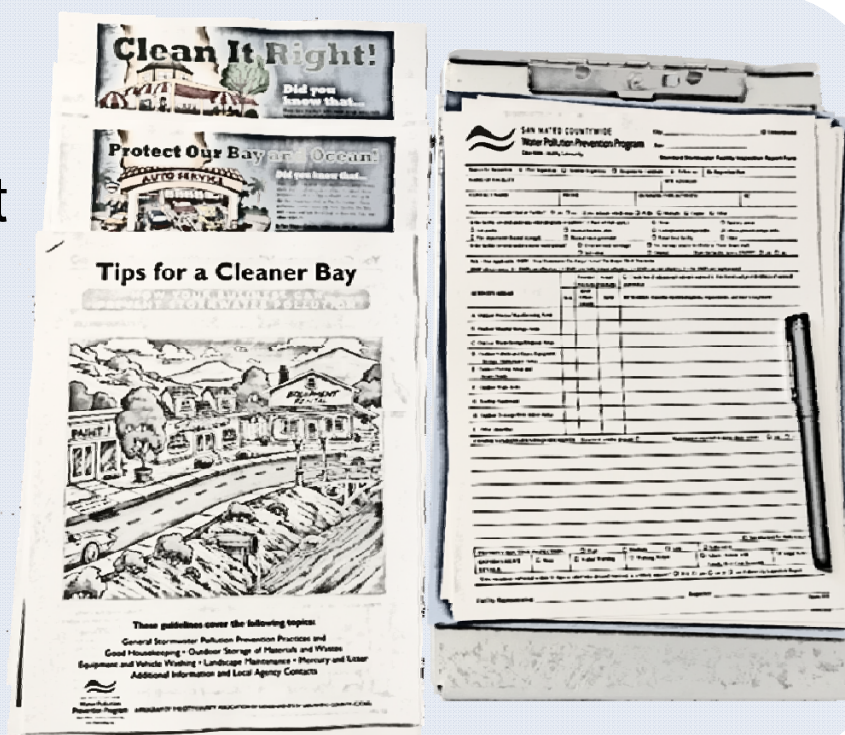
Planning for Inspection

■ File Review

- Past inspection observations
- Past violations

■ Bring

- Phone, camera, flashlight
- Outreach material
- Clipboard & pen
- Inspection forms



Inspection Process

- **Site Survey – before entering, look for**
 - Nearby conveyance/water bodies
 - Visible discharge points along perimeter
 - Outdoor areas
- **Enter Site**
 - Introduction/present credentials
 - Request to meet with manager, industrial ES&H staff, contact on file
 - If denied entrance leave, contact supervisor and obtain warrant, if needed

Inspection Process

- **Explain reason for inspection**
- **Verify general business information**
 - Contact information
 - Business type/ SIC code
 - Filed NOI for coverage under Industrial Stormwater General Permit (IGP) or may need to
 - SWPPP available – site map may be helpful

Inspection Process



SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

City: _____ ☐ Unincorporated

Date: _____

Standard Stormwater Facility Inspection Report Form

Reason for Inspection: ☐ First Inspection ☐ Routine Inspection ☐ Response to Complaint ☐ Follow-up

Re-Inspection Due: _____

NAME OF FACILITY

SITE ADDRESS

CONTACT NAME

PHONE

BUSINESS TYPE/ACTIVITY

SIC

Pollutants of Concern Used at Facility? ☐ yes ☐ no If yes, indicate which ones: ☐ PCBs ☐ Mercury ☐ Copper ☐ Other _____

Is the facility covered under any other programs or permits? (Check all that apply.)

☐ None

☐ Sanitary sewer

☐ Air quality

☐ Hazmat business plan

☐ Underground storage tanks

☐ Above ground storage tanks

☐ Fire department (hazmat storage)

☐ Hazmat waste generator

☐ Retail food facility

☐ Other _____

Is the facility covered under a storm water permit?

☐ Does not need coverage

☐ No, but may need to be (Refer to Water Board staff)

☐ Individual

☐ General

Does the facility have a SWPPP? ☐ yes ☐ no

Inspection Process

■ **Inspect/ Observe Activities**

- Outdoor areas
- Storm drain system
- Indoor areas that may discharge to outside (roll up doors, etc.)
- Rooftop equipment and/or downspouts

■ **Review with facility contact**

- Record keeping
- Training
- Ask about cleaning practices

Inspection

■ Inspect/ Observe Access

- Outdoor areas
- Storm drain system
- Indoor areas that may connect to outside (roll up doors, etc.)
- Rooftop equipment and materials

■ Review with facility owner

- Record keeping
- Training
- Ask about cleaning practices



Inspection P

■ Inspect/ Observe Activities

- Outdoor areas
- **Storm drain system**
- Indoor areas that may discharge to outside (roll up doors, etc.)
- Rooftop equipment and/or downspouts

■ Review with facility contact

- Record keeping
- Training
- Ask about cleaning practices



Inspection

- **Inspect/ Observe Act**
 - Outdoor areas
 - Storm drain system
 - **Indoor areas that may discharge to outside (roll up doors, etc.)**
 - Rooftop equipment and/or downspouts
- **Review with facility contact**
 - Record keeping
 - Training
 - Ask about cleaning practices



Inspect

■ Inspect/ Observe Areas

- Outdoor areas
- Storm drain system
- Indoor areas that may be affected (e.g., doors, etc.)



- Rooftop equipment and/or downspouts

■ Review with facility

- Record keeping
- Training
- Ask about cleaning procedures



Inspection Process

■ **Inspect/ Observe Activities**

- Outdoor areas
- Storm drain system
- Indoor areas that may discharge to outside (roll up doors, etc.)
- Rooftop equipment and/or downspouts

■ **Review with facility contact**

- Record keeping
- Training
- Ask about cleaning practices



Inspection Process

- **Follow the Water**
 - Site grading
 - Inlets, channels, ditches
 - Evidence of discharges
 - Stains old or new
- **Outdoor Activities**
 - Listed on inspection form
- **Note if observed or told by staff**



Complete Inspection Form

■ Complete Inspection Form

N/A = Not Applicable; NSW = Non-Stormwater Discharge/ Actual Discharge/ Illicit Discharge

BMP effectiveness: 0 = BMPs are effective, 1 = BMPs are fairly/almost effective, 2 = BMPs are not effective, 3 = No BMPs are implemented

ACTIVITY AREAS		Potential Discharge	Actual Discharge	<input type="checkbox"/> Check box if educational outreach material is distributed and provide title(s) of outreach material(s):
	N/A	BMP Effect- iveness	NSW	REMARKS: Describe recommendations, requirements, and time to implement
A. Outdoor Process/Manufacturing Areas				
B. Outdoor Material Storage Areas				
C. Outdoor Waste Storage/Disposal Areas				
D. Outdoor Vehicle and Heavy Equipment Storage, Maintenance Areas				
E. Outdoor Parking Areas and Access Roads				
F. Outdoor Wash Areas				
G. Rooftop Equipment				
H. Outdoor Drainage from Indoor Areas				
I. Other (describe):				

COMMENTS/REMARKS/REQUIREMENTS

Structural control present ☐

Maintenance required in storm drain system ☐ yes ☐ no

Inspection Form

- **Actual Discharge – note if**
 - Observed – active discharge must cease immediately
 - Evidence of

N/A = Not Applicable; NSW = Non-Stormwater Discharge/ Actual Discharge/ Illicit Discharge BMP effectiveness: 0 = BMPs are effective, 1 = BMPs are fairly/almost effective, 2 = BMPs are not effective, 3 = No BMPs are implemented				
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E. Outdoor Parking Areas and Access Roads				
F. Outdoor Wash Areas				
G. Rooftop Equipment				
H. Outdoor Drainage from Indoor Areas				

Inspection Form

- **Potential Discharge** (*BMP Effectiveness*)

→ Rate from **0** to **3**

N/A = Not Applicable; NSW = Non-Stormwater Discharge/ Actual Discharge/ Illicit Discharge

BMP effectiveness: 0 = BMPs are effective, 1 = BMPs are fairly/almost effective, 2 = BMPs are not effective, 3 = No BMPs are implemented

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D. Outdoor Vehicle and Heavy Equipment Storage, Maintenance Areas				
E. Outdoor Parking Areas and Access Roads				
F. Outdoor Wash Areas				
G. Rooftop Equipment				
H. Outdoor Drainage from Indoor Areas				
I. Other (describe):				

Restaurants

■ Ask

- Where do they wash floor mats
- How do they clean equipment (fume hood, vents, etc.)

■ Dumpsters

- Lids closed
- Not leaking
- Area clean



■ No other evidence of NSW discharge (stains/storm drain)

Restaurants

- **Tallow bins**
 - Outside clean
 - No full buckets stored by bin



Vehicle Service Facilities

- **Spill kit**
 - Evidence spills cleaned up
- **Work performed indoors**
- **Vehicle fluids properly managed/stored**
- **No engine parts w/residue stored uncovered/outside**
- **Dumpsters (closed lids/no leaks/area clean)**
- **Vehicle wash water directed to sanitary sewer**



General Business

■ Example BMPs

- Employee awareness
- Good housekeeping
- Spill containment kits in work areas
- Proper storage
- Proper disposal
- No leaks



■ Use the Inspection Form

Inspection Form

- **Process/Manufacturing Areas**
- **Materials/Chemical Storage Areas**
 - Determine materials exposed to rain
 - Look for
 - Covered or bermed areas
 - Secondary containment
 - Material stored off the ground
 - Protective covers (or other) to protect storm drains
 - Evaluate rainwater accumulation potential



Inspection Form

■ Waste Storage and Disposal Areas

- General cleanliness
- Dumpster lids closed
- Dumpster not leaking
- Tallow bins – cleanliness/good housekeeping
- Types of waste stored (covered, secondary containment)
- Proximity to storm drain



Inspection Form

- **Vehicle/Equipment Storage & Maintenance**
 - General cleanliness



Inspection Form

■ Rooftop Equipment

- General cleanliness
- Greasy roof vents
- Catchment pans or trays
- Duct work
- Storm drain protection
- Process residues (e.g. copper deposits)



Inspection Form

■ Outdoor Wash Area

- Impact to storm drain
- Rinse water into sanitary sewer drain
- Recycled in closed loop system
- Contained area



■ Outdoor Drainage from Indoor Areas

- Work bays
- Roll up doors
- Hoses



Inspection Process

■ Enforcement

- Issue enforcement action for
 - actual discharge = non-stormwater discharge (NSW)
 - potential discharge = BMPs ineffective or not implemented (2s and 3s on form)
- Mark enforcement action on inspection form
 - Follow ERP guidance

					<input type="checkbox"/> See attached for more comments.	
PRIORITY ROUTINE INSPECTION:			<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Referred to:
ENFORCEMENT LEVELS:	<input type="checkbox"/> None	<input type="checkbox"/> Verbal Warning	<input type="checkbox"/> Warning Notice		<input type="checkbox"/> Admin. Action with Penalty &/or Cost Recovery	<input type="checkbox"/> Legal Action
Were violations corrected within 10 days or otherwise deemed resolved in a timely manner? <input type="checkbox"/> N/A <input type="checkbox"/> yes <input type="checkbox"/> no or <input type="checkbox"/> see Follow-Up Inspection Report						

Facility Representative: _____ Inspector: _____

January 2018

Inspection Process

■ Enforcement

- Provide facility with compliance date
 - **Correct within 10 business days***
(*or before next rainfall, whichever is first)
 - Or document rationale for longer time period
- Verify corrective actions
 - Follow-up inspection
 - Have facility email you photos
 - Have facility email you new procedures or other documentation



Inspection Process

- **Enforcement Escalation**
 - Follow Enforcement Response Plan
 - Non-compliance on follow-up inspection
 - Same violation on multiple inspections



Pollutants of Concern

■ Mercury

- MRP general requirement to implement control program
- Sources
 - Facilities that use mercury in processes (e.g. metal finishing, electroplating)
 - Facilities that have mercury containing products that need to be disposed of properly (e.g. auto dismantlers/recyclers, e-waste collection centers)



Pollutants of Concern

■ PCBs



- Previous MRP – specific requirement for PCBs identification at industrial sites
- MRP 2.0 general requirement to implement control program
- Sources
 - Manufacturing stopped in late 1970s
 - Equipment should have labels
 - Old hydraulic systems, transformers, capacitors, fluorescent light ballasts



Pollutants of Concern

■ Copper

- MRP Requirements for Industrial Sources

- Identify industrial facilities likely to have sources of copper
- Educate industrial facilities on proper BMPs
- Ensure proper BMPs to minimize discharge of copper, including roof runoff

- Sources

- Electroplating, semiconductor manufacturing and metal finishers (including roof runoff)
- Auto dismantlers
- Car washes
- Automotive services

} Commercial Facilities

Recordkeeping

■ Complete Inspection Form

- Recommend routine inspection priority (if different than BIP)
- Obtain signatures
- SMCWPPP carbon copy forms
 - Give one copy to the facility
 - Providing form can be process of issuing enforcement action

PRIORITY ROUTINE INSPECTION:		<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	
ENFORCEMENT LEVELS:	<input type="checkbox"/> None	<input type="checkbox"/> Verbal Warning	<input type="checkbox"/> Warning Notice		<input type="checkbox"/>
Were violations corrected within 10 days or otherwise deemed resolved in a timely manner? <input type="checkbox"/> N/A <input type="checkbox"/> yes					

- Specific inspection data must be kept electronically
- Can be requested by RWB at any time
- Use to complete Annual Report
- Provide list of industrial facilities that may require IGP coverage to RWB

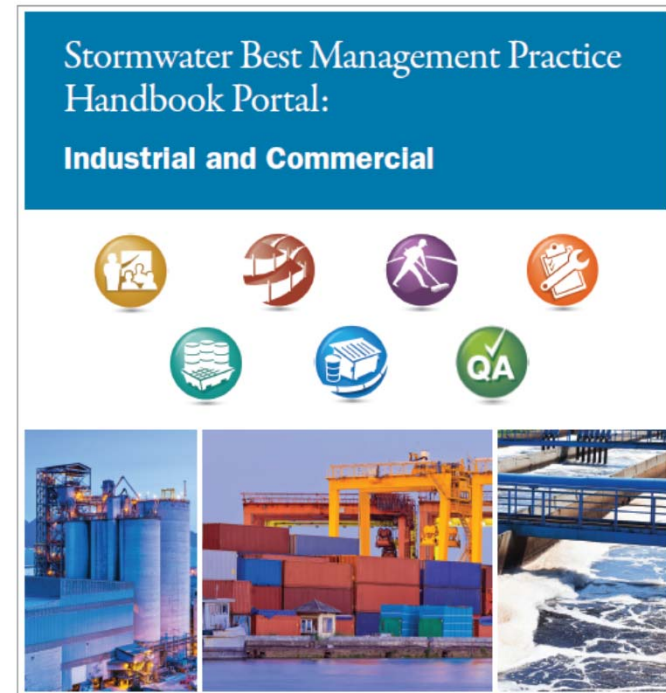
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Resources

- **BASMAA Pollutants of Concern Presentation**
 - Flows to Bay website CII members only webpage
- **How to Conduct Stormwater Inspections guidance (April 2015)**
 - Flows to Bay website CII members only webpage
 - http://www.flowstobay.org/sites/default/files/SW%20Inspection%20Guidance_April2015.pdf
- **Outreach Material**
 - Flows to Bay website under “At Work” → BMP brochures

Resources

- **CASQA Industrial and Commercial BMP Handbook**
 - SMCWPPP group subscription
 - Source Control BMP Fact Sheets
 - Business Category BMP Fact Sheets



Outdoor Liquid Container Storage SC-31

Description

Accidental releases of materials from above ground liquid storage tanks, drums, and dumpsters present the potential for contaminating stormwater with many different pollutants. Tanks may store many potential stormwater runoff pollutants, such as gasoline, aviation gas, diesel fuel, kerosene, oils, greases, lubricants and other distilled, blended and refined products derived from crude petroleum. Materials spilled, leaked, or lost from storage tanks may accumulate in soils or on other surfaces and be carried away by rainfall runoff. These source controls apply to containers located outside of a building used to temporarily store liquid materials and include installing safeguards against accidental releases, installing secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques.

Approach

General Pollution Prevention Protocols

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Keep an accurate, up-to-date inventory of the materials delivered and stored on-site.
- ☐ Try to keep chemicals in their original containers, and keep them well labeled.
- ☐ Develop an operations plan that describes procedures for loading and/or unloading. Refer to SC-30 Outdoor Loading/Unloading of Materials for more detailed BMP information pertaining to loading and unloading of liquids.
- ☐ Protect materials from rainfall, run-on, runoff, and wind dispersal:
 - ✓ Cover the storage area with a roof.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

Sediment	
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered

	Good Housekeeping	
	Preventative Maintenance	✓
	Spill and Leak Prevention and Response	✓
	Material Handling & Waste Management	✓
	Erosion and Sediment Controls	
	Employee Training Program	✓
	Quality Assurance Record Keeping	✓



BG-21 Automotive Service – Maintenance



Photo Credit: Geoff Brosseau

Description

This category includes facilities that conduct general maintenance and repair on vehicles including:

- General repair shops
- Radiator repair shops
- Car dealerships
- Car washes
- Fleet maintenance operations

Information specific to: auto dismantling, body repair, and service stations is provided in other guide sheets.

Pollutant Sources

The following are sources of pollutants:

- Changing oil and other fluids
- Cleaning engines and parts
- Flushing radiators
- Washing cars and other vehicles

Pollutants can include:

- Heavy metals (copper, lead, nickel, and zinc)
- Hydrocarbons (oil and grease, PAHs)
- Toxic chemicals (solvents, chlorinated compounds, glycols)
- Acids and alkalis



Resources

- **State Industrial Stormwater General Permit**

- State Water Board website
- To Do List (complying with the IGP)
- No-Exposure Certification (NEC) Brochure
- Video Presentations
- https://www.waterboards.ca.gov/water_issues/programs/stormwater/toolbox.shtml

Questions?

Contact Information

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